SIEMENS

Uroskop ACCESS

CS

Update Instructions SP014/02/P

Title: Replacement of the Endoscopy Interface

Reason for update:		☒ Performance	
Urgency:	☐ Immediate	☒ Within	6 months
Update materials required?	☒ Yes	☐ No	
Material free of charge?	☒ Yes	☐ No	
Return of parts?	☒ Yes	☐ No	
Estimated completion time:	2 h	Number of CSE's:1	
Customer Information?	☐ Yes	☒ No	

Systems/Products affected/System identifying IVK

Name	Material No.	Serial No.
Uroskop ACCESS	57 56 122	1001; 1006; 1008 - 1010; 1013; 1014; 1016; 1018 - 1022; 1025 - 1027
Uroskop ACCESS	57 56 130	2003 -2007

Remark: If Endoscopy Interface available

Components affected/to be modified

Name	Material No.	Serial No.	Component status affected
Endoscopy Inter-face	57 56 395	n.a.	ÄST 01; 02

Remark:

Chg. Rev. No.: 119397
Name: Fürstenberg
Dept.: CS SD 24

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Chapter	Page	Revision
all	all	01

Document revision level

This document corresponds to the version/revision level effective at the time of system delivery. Revisions to hardcopy documentation are not automatically distributed.

Please contact your local Siemens office to order current revision levels.

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Systems / Products affected

Uroskop ACCESS with "Endoscopy Interface" option, Part No. 57 56 395, configuration levels 01 and 02.

Reason for the update

The use of high-frequency surgical knives in connection with the endoscopy interfaces of configuration levels 01 and 02 can lead to image artifacts on the TFT monitor.

This no longer occurs with the new configuration level 03.

Prerequisites

None.

Special tools / Documents

None.

Ordering information

The following update kit has to be ordered from CSML (SAP Distribution Channel, factory 2050):

Update Kit 77 57 292

List the system Serial Number on the order!

Contents of the update kit

Update kit **77 57 292** contains the following parts:

Pos.	Quan.	Material No.	Name
1	1	57 56 395	Endoscopy Interface
2	1	n.a.	cable set
3	2	77 57 284	ground conductors
4	1	SPL5-330.898.02.01.02	Update Instruction SP014/02/P
5	1	SPL5-330.623.04.01.	3 sheets for Operating Manual; de/eng

Tab. 1

Based on the above description, the CSE should be able to check the update kit for completeness prior to performing the update.

Return of parts

The following parts must be returned:

56 57 395

All parts must be correctly packaged!
No credit will be issued for returned parts that have been damaged as a result of incorrect handling.
These parts must be returned in accordance with ARTD Return Parts using the Returned Parts form.

Work steps

- Switch the system **off**.
- Unplug all endoscopy connecting cables that are connected to the endoscopy interface from the interface. If necessary, mark the cables.
- Remove the rear cover of the unit from the unit carrier.
- Remove the connecting cables on the rear of the endoscopy interface. Pay attention to the designations. If necessary, mark the cables.
- Replace the endoscopy interface.
- Reconnect all connecting cables on the rear of the endoscopy interface.
- Reinstall the rear cover of the unit.
- Take the connecting cables for the endoscopy equipment from the supplied cable set and replace the existing cables with these ones (previously supplied connecting cables possibly making poor contact). Plug the cables into plugs Y and C according to their designation.
- Connect the supplied ground conductors (yellow/green) for equipotential bonding to the existing equipment on the endoscopy shelf and connect them with the endoscopy shelf.
  - Each of the supplied cables must be connected to the grounding stud of the equipment on the endoscopy shelf and to the grounding stud of the shelf.
- If necessary, retighten the grounding studs on the endoscopy shelf.

Final check

- Once the system has powered up, no LED must light up at the endoscopy interface.
- On the hand control unit, press the => Ref / Endo / US key to select the image source.
- If the optional system foot switch is used, switch over the image sources (functions) alternately at the hand control unit and the system foot switch.
- Every time the image source was switched over, the following LEDs must light up in sequence or remain dark at the optional endoscopy interface:
  - Endoscopy input => ultrasound input => no LED => endoscopy input => etc.
- The reference monitor on the TFT support arm shows the reference image mask only if endoscopy/ultrasound is not selected. Otherwise the reference image mask is switched off.
- Although the two inputs (S-video; video) for a function are identical, the S-video input is recommended because it offers better signal quality. If both inputs are supplied with a signal at the same time, only the S-video signal will be transmitted and visible on the monitor.

Checking / Setting the endoscopy video camera connection

Preliminary remark

The connection of the non-Siemens endoscopy video camera to the endoscopy interface is generally performed by hospital staff.

The adaptation of the endoscopy camera is usually performed by authorized customer service staff of the camera manufacturer.

The image impression and image quality depend on the level of the video signal at the camera output, which is fed into the video input of the TFT monitor. The video input of the TFT monitor is factory-adjusted to a standard video signal of 1 volt peak/peak (700 mV video signal; 300 mV sync signal).

Since the endoscopy video cameras from other manufacturers may supply a video signal of a higher level than the standard signal, these instructions shall allow the Siemens CSE to check the image impression and thus the image quality on TFT monitors and to perform a "basic setting" for the video input (endoscopy input) of the TFT monitor.

Prerequisite

The operating instructions for the camera are available.

The camera has been connected in accordance with the operating instructions supplied by the camera manufacturer. Proper communication between the light source and the camera (via the video cable or special connecting cable) must be ensured, see camera operating instructions.

The camera has been preset correctly by the manufacturer or customer service.

Note on switching on the OSD (Operating Screen Display) TFT monitors:

18" Monitor

To disable or enable the OSD menu, press the following key combination in quick succession without pausing, within 1 sec.:

- Press the "Set" key once,
- Press the "UP" key three times.

- Select "Image Source" and "S-Video".

To save the settings press the "Set" key until the main menu appears. Then wait until the main menu is automatically deselected.

17" Monitor

To disable or enable the OSD menu, press the following key combination in quick succession without pausing, within 1 sec.:

- Press the "Set" key (right key) once,
- Press the "Up" key (second key from left) three times.

- Select "Image Source" and "S-Video".

Press the "Set" key twice to save the settings and confirm the change.

Checking / Setting the output signal of the endoscopy camera with the endoscope

Fast movements of the endoscope towards and away from an object may cause synchronization problems (tearing). In this case the video signal at the camera output is too high during the fast movement due to the sluggishness of the intensification mechanism of the camera or the light source.

Bright, glaring image areas, which may occur on the monitor during an examination and greatly degrade the image quality and disturb the image, are caused by reflecting (shiny) instruments (e.g. scissors) used by the surgeon. Here, too, the video signal at the camera output is too high. See page 2-4.

Camera saturation due to movements and the use of reflecting instruments can be controlled with an oscilloscope.

To evaluate bright image areas on the monitor, take an exposure with the camera with the endoscopic lens in place. Make the setting on a surgical drape (green or blue), using a pair of pliers, for example.

Evaluate the different brightness areas of the drape and the reflecting parts on a monitor image.

Adjust the video input of the TFT monitor to the video level of the endoscopy camera:

- use the contrast control for the bright (white) area
- use the brightness control for the dark (black) area.

The bright, glaring image areas can be darkened gradually by reducing the contrast until image noise becomes noticeable (transition from bright white to normal white).

The setting can be performed according to the following example exposures:

For the first exposure, a pair of chrome pliers is used in the test setup. Alternatively, a chrome Allen key can be used.

Then:

3 exposures for the test setup using chrome pliers,

3 exposures for the test setup using an chrome Allen key.

In each case the test images show 3 settings on the TFT monitor:

- **1st image with too little contrast.**
- **2nd image with correct contrast setting.**
- **3rd image with too much contrast.**

Example of the test setup using chrome pliers

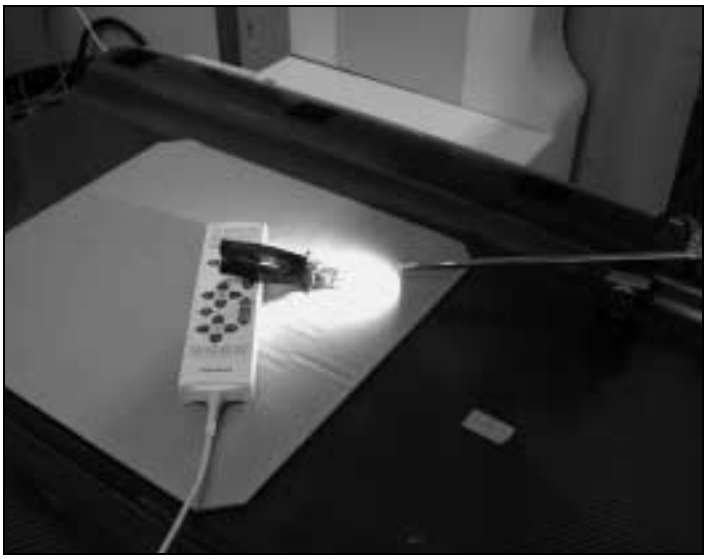

Fig. 1

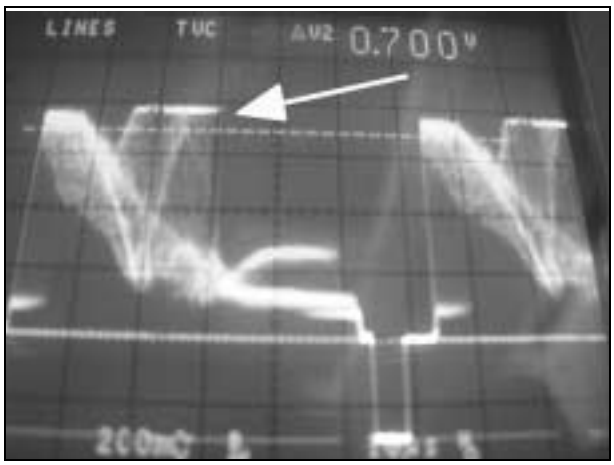

Fig. 2

Fig. 2: Visible saturation at reflecting areas of the pliers.

Example of the test setup using a chrome Allen key

Fig. 3

Example of the test setup using chrome pliers, <u>contrast too low.</u>

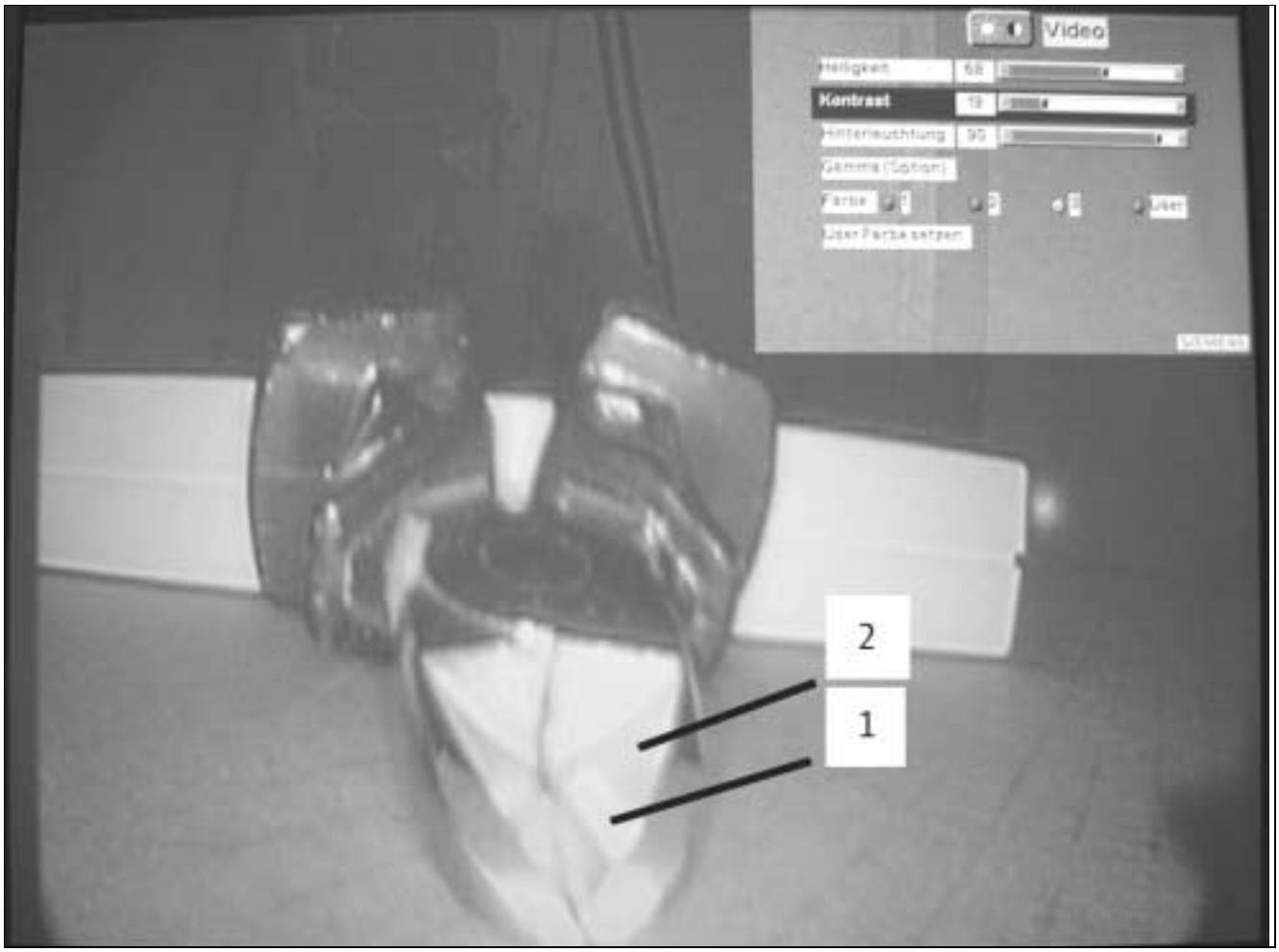

Fig. 4

Arrow 1:

The reflecting areas of the chrome pliers do not appear bright. The whole image appears foggy.

Arrow 2:

The structures of the chrome pliers are visible.

Example of the test setup using chrome pliers, <u>contrast OK.</u>

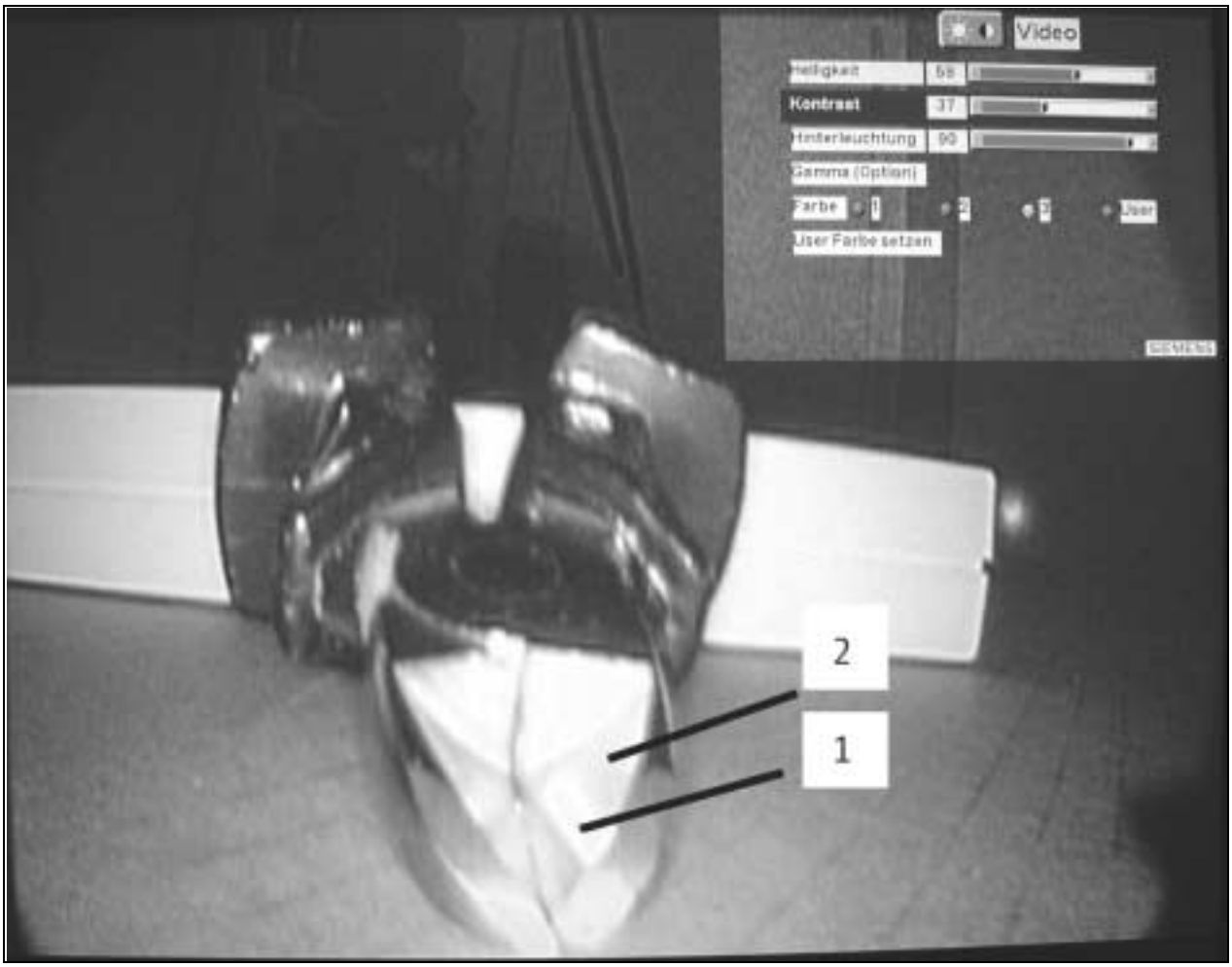

Fig. 5

Arrow 1:

The reflecting areas of the chrome pliers have an almost glaring, bright content and a recognizable white edge, which indicates the beginning of camera saturation. Image noise is just visible within the reflecting area.

Arrow 2:

If the monitor is set correctly, the structures of the chrome pliers are shown without saturation effect.

Example of the test setup using chrome pliers, <u>contrast too high.</u>

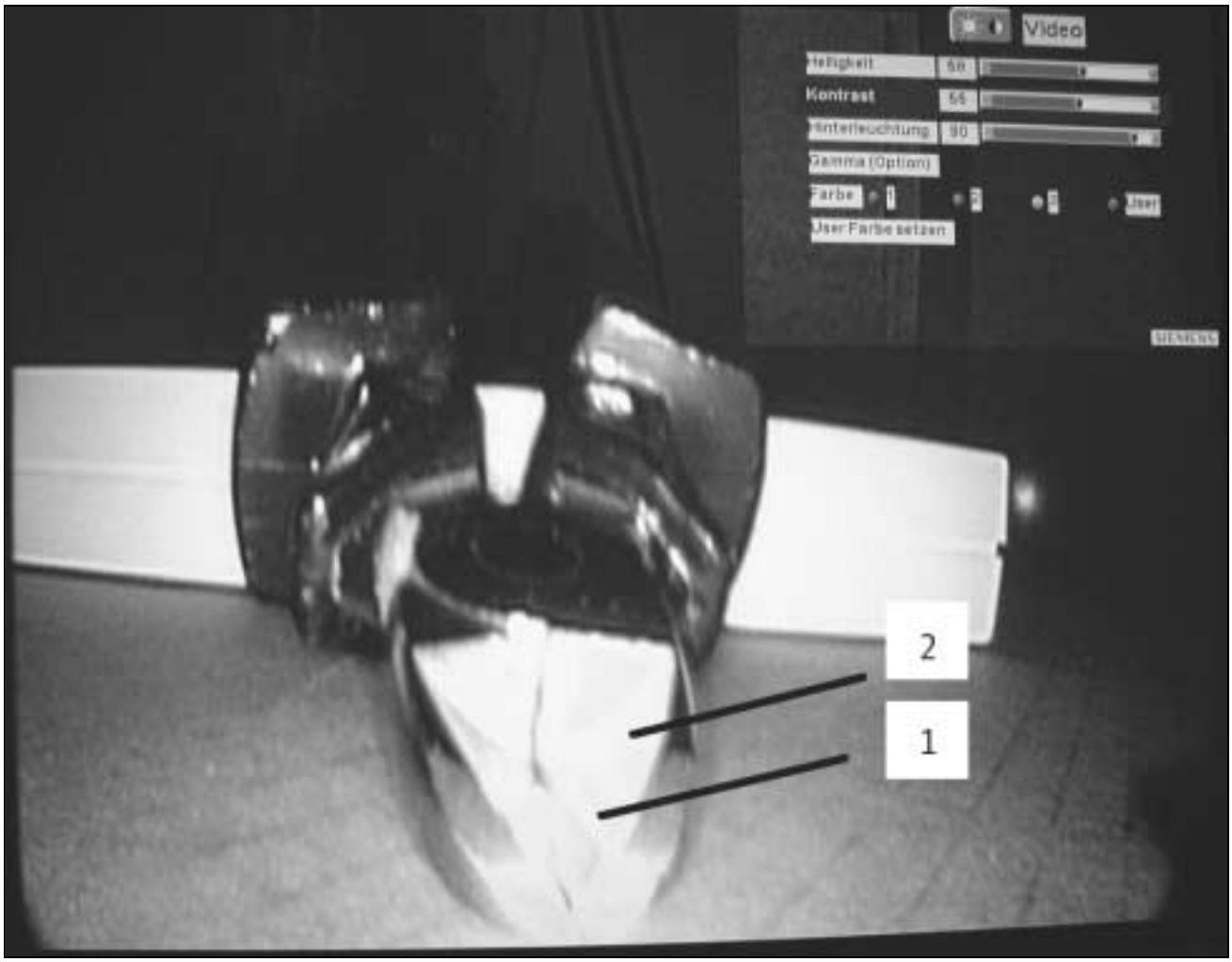

Fig. 6

Arrow 1:

As the contrast setting is changed from correct contrast to excessive contrast, the color impression of the reflecting area of the chrome pliers changes slightly. The reflecting areas of the chrome pliers have a glaring, bright content and no recognizable white edge. No image noise is noticeable within the reflecting area.

Arrow 2:

The structures of the base disappear due to the saturation effect at the analog input of the monitor. Therefore, the contrast must be reduced.

Example of the test setup using a chrome Allen key, <u>contrast too low.</u>

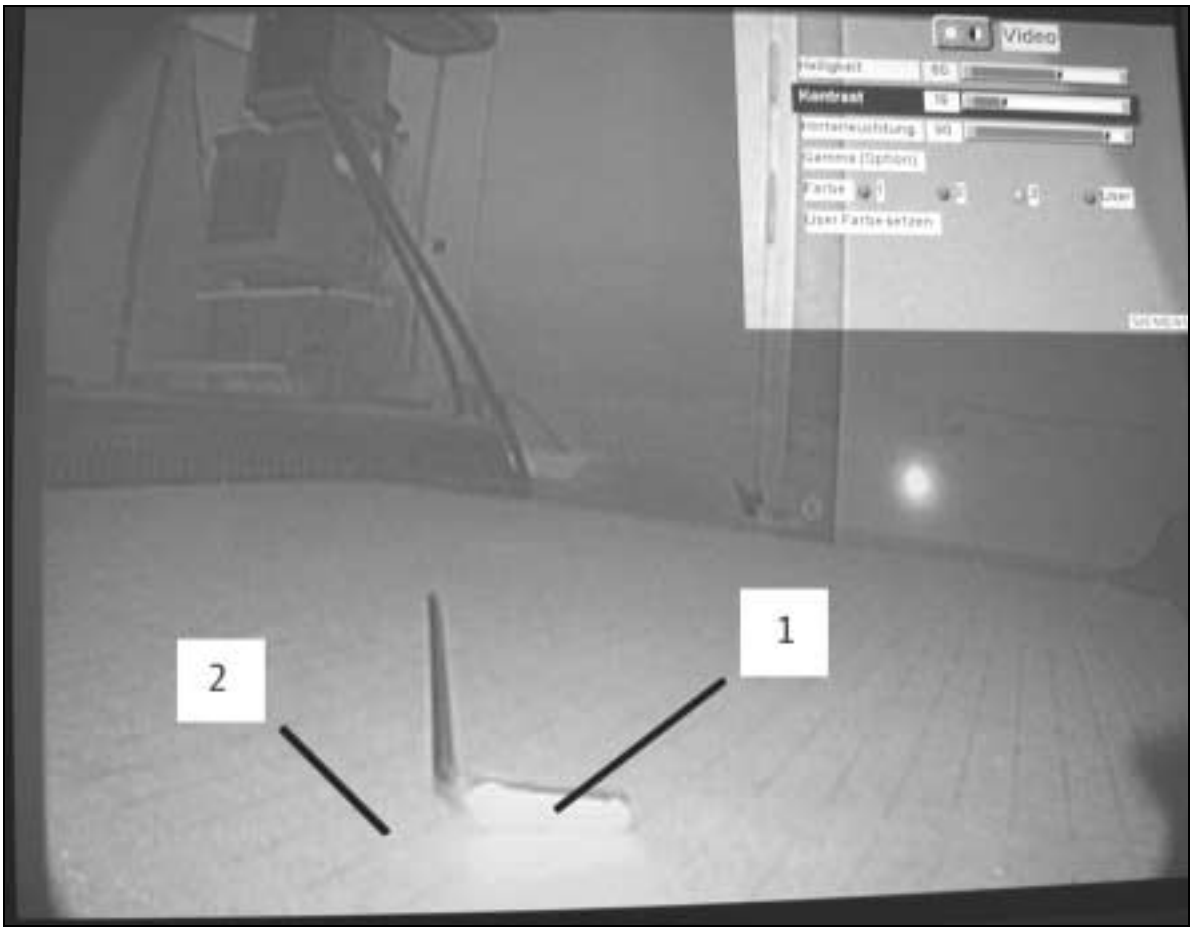

Fig. 7

Arrow 1:

The reflecting areas of the chrome Allen key do not appear bright. The whole image appears foggy.

Arrow 2:

The structures of the base are visible.

Example of the test setup using a chrome Allen key, <u>contrast OK.</u>

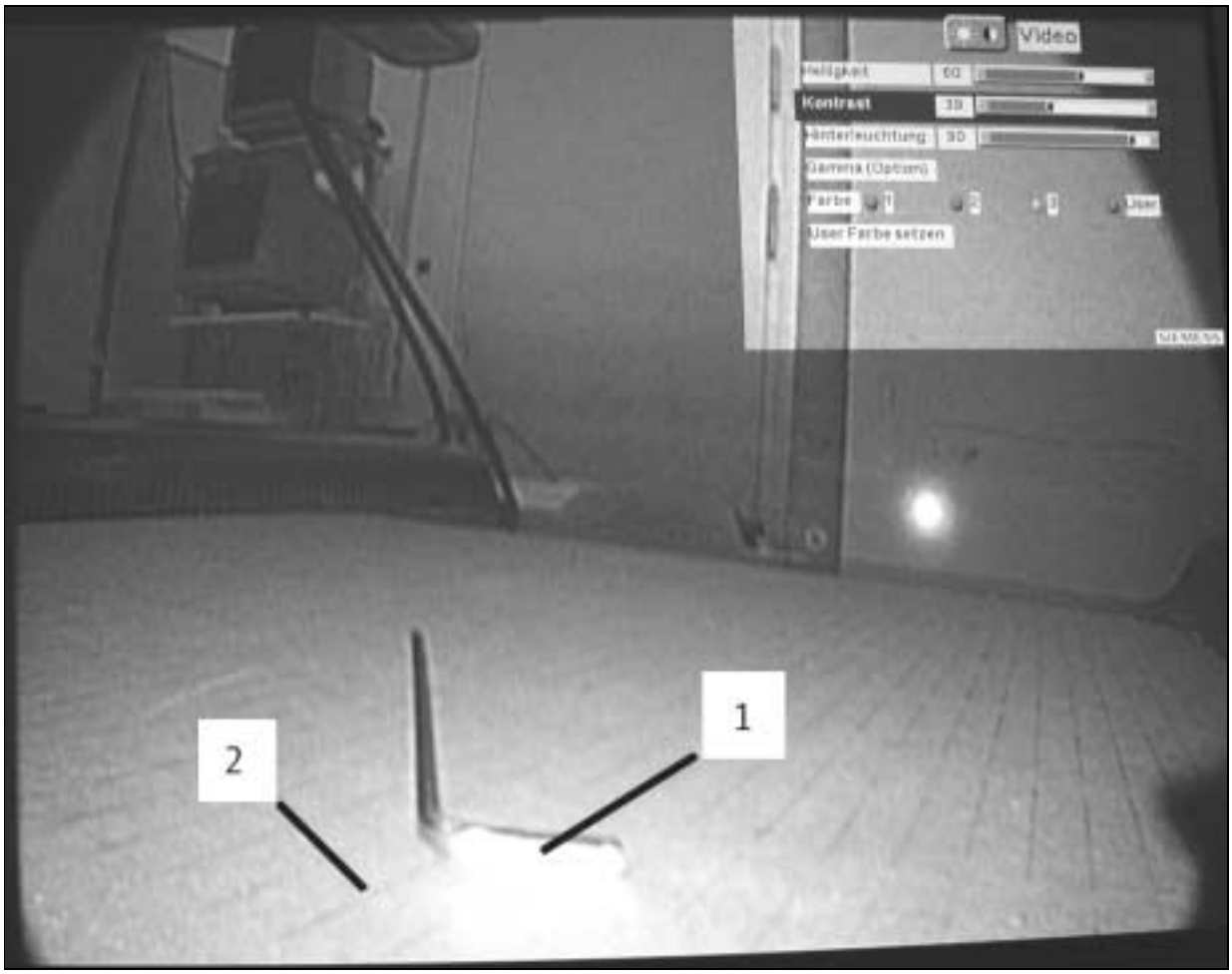

Fig. 8

Arrow 1:

The reflecting areas of the chrome Allen key have an almost glaring, bright content and a recognizable white edge, which indicates the beginning of camera saturation. Image noise is just visible within the reflecting area.

Arrow 2:

If the monitor is set correctly, the structures of the base are shown without saturation effect.

Example of the test setup using a chrome Allen key, <u>contrast too high.</u>

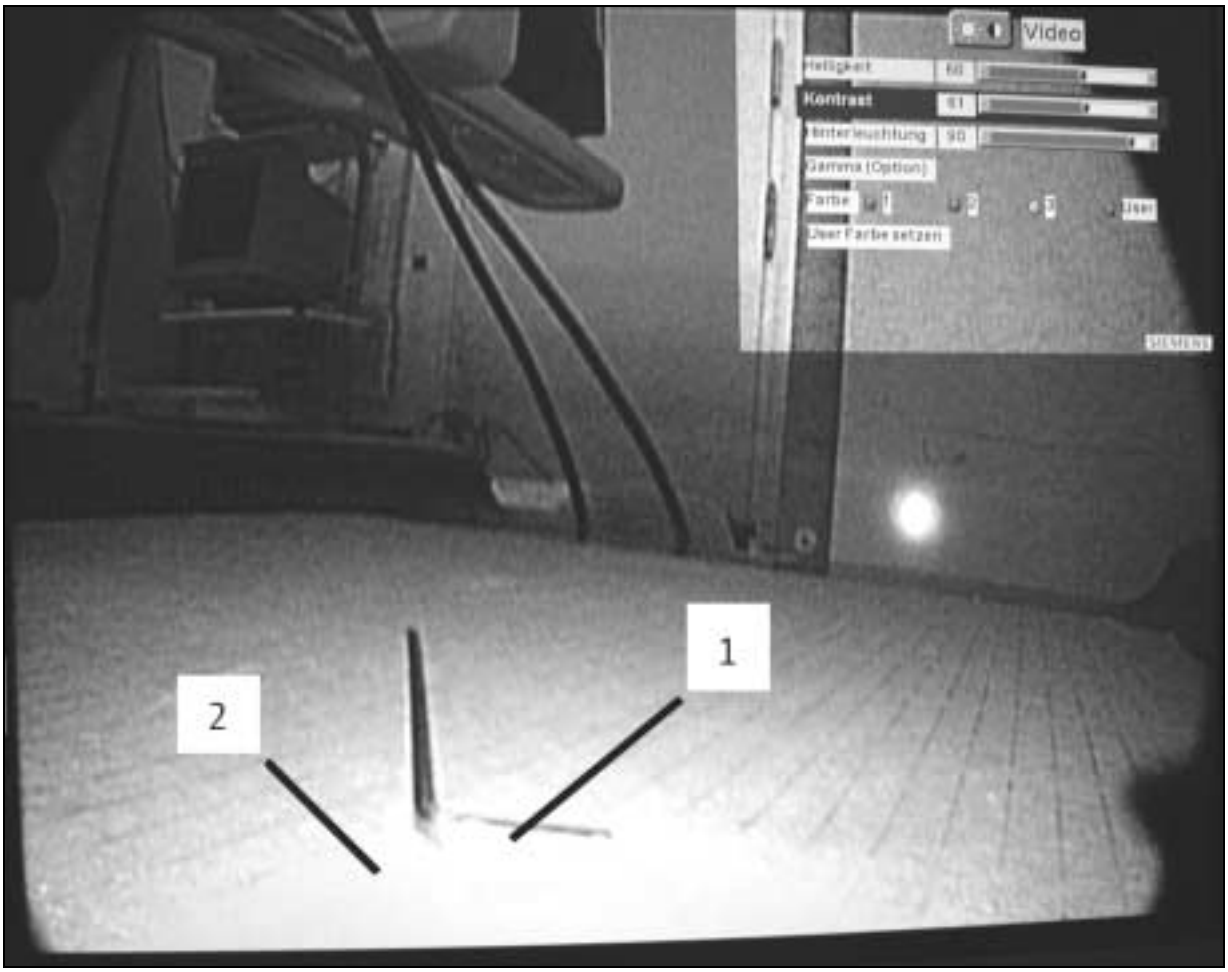

Fig. 9

Arrow 1:

As the contrast setting is changed from correct contrast to excessive contrast, the color impression of the reflecting area of the chrome Allen key changes slightly. The reflecting areas of the chrome Allen key have a glaring, bright content and no recognizable white edge. No image noise is noticeable within the reflecting area.

Arrow 2:

The structures of the base disappear due to the saturation effect at the analog input of the monitor. Therefore, the contrast must be reduced.

Now check the brightness. On a dark (black) area, fog must just be visible.

This can be a dark area in the image or can be achieved by darkening the input of the lens.

If the brightness setting is changed, the contrast setting must be checked again.

If there are any doubts regarding the correct setting of the TFT monitor, a standard CRT monitor (e.g. Sony PVM 20 MZ) can be connected to the parallel video output of the camera

These brightness and contrast settings must be saved for the video input (endoscopy input) of the monitor. To do this, invoke the main menu of the monitor and save the change.

Also record the settings for
- contrast
- brightness
- backlight

and document them in the system binder (service document).

Check whether the settings have been adopted switching the TFT monitor off and then on again. Invoke the menu again and compare the video values.

Disable the OSD menu of the TFT monitor again.

Customer information

File the supplied sheets for the operating manual.

Final work steps

- Update the system documentation.

- Updates that have already been completed prior to publication of this SI must also be reported.

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Changes to Previous Version 3 - 1

No changes; initial publication.

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Completion Protocol

The update number **SP014/02/P** has been completed.

Material Number:.....

Serial Number: .....

Customer: ..... Site: .....

Customer No.: .....

Name (CSE): ..... Telephone: .....

Country: ..... Location: .....

Date: ..... Signature: .....

Remark: .....

.....

NOTE

After completing the update, make a copy of this page, fill it out and file it in the corresponding system binder / operating manual.

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